

Contec Slab Panel Installation Guide

Before Installation of Contec Slab Panels

1. Clear the unloading and provisional storage area

- Flat surfaces are required for unloading pallets, preferably close to final position.
- Place pallets over wood blocks (panels must not be in contact with ground).

2. Check material and installation logistics

- Verify dimensions, positions and quantity of the panels according to construction drawings.
- Define sequence of panel installation according to construction drawings. To help speed installation, place the panels with the groove side at the beginning and continue.
- Define type of installation equipment (crane or similar).
- Evaluate quantity of personnel required (see Table 1: Average efficiency for Contec Slab Panel Installation).

3. Check existing steel accessories

- Steel accessories (Omegas) for holes in slabs.
- Steel accessories (APS) for holes in walls.
- Steel accessories (APS) for cantilevered panels.
- Contec nails to fix steel accessories.

4. Check support structure

- All support elements (walls, beams, etc.) must be already finished before receiving slab panels.
- Check layout and top of supporting structure. Contec masonry block adjustments must not be less than 2" in height, or else cement-sand mortar (1:4) must be used.
- Bearing lengths for Contec Slab Panels should comply with Table 2.
- Place steel accessories if required (holes in walls, supporting areas, etc.).

- Mark guidelines on top of the supporting elements according to bearing lengths in construction drawings.
- For non-loadbearing elements, put compressible sheets (polystyrene or similar) on top.

Contec Slab Panels	Average Efficiency (panels/shift)	Personnel Required	Notes
Floor or roof, Length < 10', Thickness 4" and 5"	96 - 110	1 mason and 3 assistants for lifting gear Crane with operator and assistant	Depending on job site access
Floor or roof, Length from 10' to 14' 9", Thickness 6", 7" and 8"	40 - 80	1 mason and 5 assistants for lifting gear Crane with operator and assistant	
Floor or roof, Length from 10' to 20', Thickness 10" and 12"	42 - 60	1 mason and 5 assistants for lifting gear Crane with operator and assistant	

Table 1: Average efficiency for Contec Slab Panel installation.

Support Elements	Minimum Bearing Length "a" (in)
Contec Masonry	2 3/4
Concrete or reinforced concrete	2 or ≥ 1/80
Wood	2 or ≥ 1/80
Steel Profiles	1 1/2 or ≥ 1/80
Note: l = Effective span length, l _c = Clear span and l = l _c + 2a/3	

Table 2: Minimum bearing length for Contec Slab Panels.

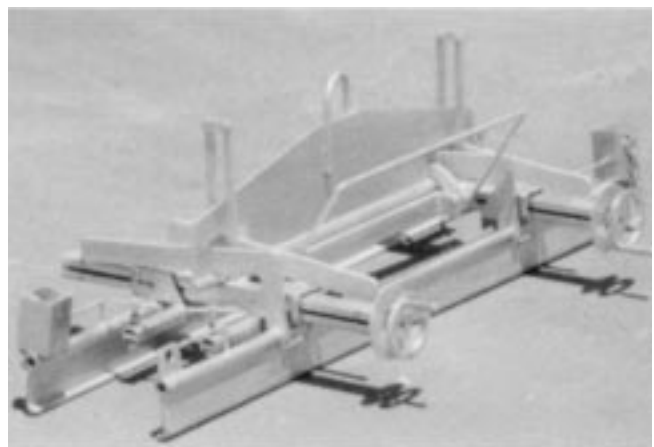


Fig. 3: Panel lifting gear (2 ft length).

Installation of Contec Slab Panels

- a) Identify panels to be installed according to previous logistic.
- b) Unpack panels using scissors or hammer ax (see Fig. 5).
- c) Mark center of panels.
- d) Lay the first panel on turners (see Fig. 6).
- e) Sand the tongue surface of the panel using a sanding float and clean the groove side.
- f) Place lifting gear at center of panel (see Fig. 8)
- g) Using the pulleys, close clamps, clipping the tongue and groove sides of the panel.
- h) Fasten safety chains avoiding excessive tightening.
- i) Rise the locking lever and indicate to crane operator to lift the panel.
- j) Two people will lead the panel to place it on the supports.
- k) Remove safety chains (see Fig. 9).
- l) Place the panel on the guidelines previously traced.
- m) Once the panel is placed, remove the lifting gear.
- n) This procedure is followed for the next panels.

Cautions:

- Handle panels with care to avoid damages.



Fig. 4: Turners to lay panels.



Fig. 5: Unpacking panels.



Fig. 6: Turning down the panel.



Fig. 7: Cleaning the groove side of the panel.



Fig. 8: Placing the lifting gear at center of panel.



Fig. 9: Before placing the panel on the supports, remove safety chains.



Fig. 10: Place the panel according to guidelines on top of support elements, open the buckets and remove the lifting gear.



Fig. 11: Detail of steel plate connection when supporting panels on steel structure.



Fig. 12: Contec Slab panels on steel beams.

- Make chases needed prior to installation.

Cast and reinforcement of longitudinal joints and ring beams

After panel installation, place steel reinforcement in longitudinal joints (see Fig. 13) and ring beams surrounding panels (see Figs. 14, 15 and 16). Forms must be placed in perimeter ring beams.

In longitudinal joints (shear joints), it is required 1#3 rebar, wedged with rebar spacers (1 every 5 ft), and fill with cement-sand mortar 1:4.

Ring beams require 2#5 rebars along and #3 every 16" (diagonal) and fill with regular concrete $f'_c=3$ ksi. The maximum size of coarse aggregate is $3/8"$ and 5" to 6" of slump. Form surfaces must be moist before concrete casting. A smooth surface of concrete is required to match the top of the panels using a mason's trowel.

When Contec Panels are installed on steel structure, steel plates must be welded (every 2 longitudinal joints) to the structure for connection (see Fig. 16).

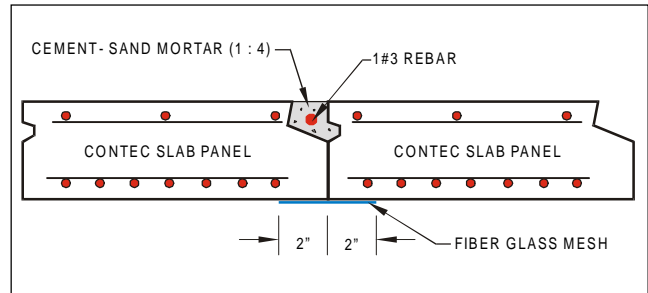


Fig. 13: Typical detail of longitudinal joint between Contec Slab Panels.

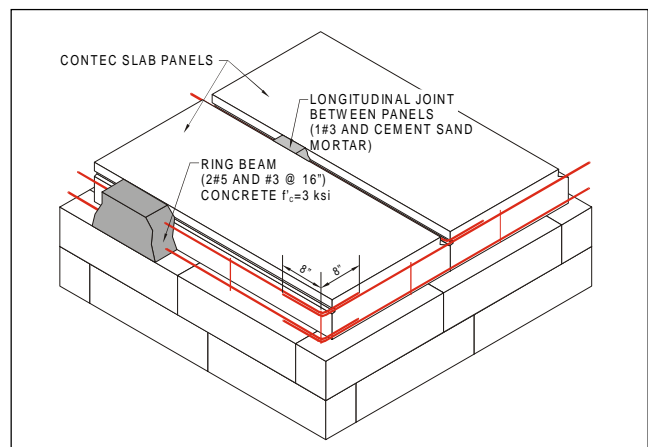


Fig. 14: Typical reinforcement for ring beams and longitudinal joints.

Utilities installation

Openings

Openings in slabs for A/C ducts, staircases, etc. are built using steel structures ("Omegas"). For more information call Texas Contec Technical Department.

Electrical conduits

Electrical conduits with diameter $\leq 1"$ can be lodged through longitudinal joints on top or bottom of the panels. For electrical conduits with diameter $> 1"$, longitudinal joints can be widened to lodge them. It is not recommended to chase on top of panels.

It is possible to define cut surfaces in panels regarding installations (for more information call Texas Contec Technical Department).

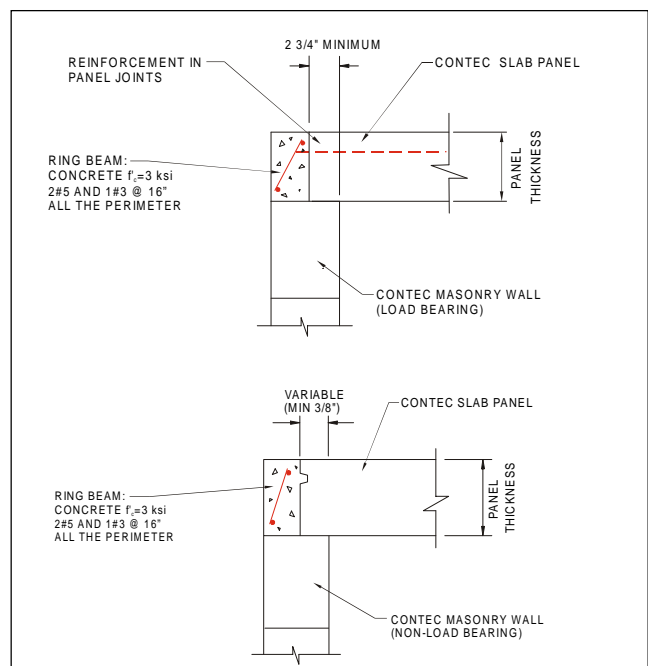


Fig. 15: Typical details of panels supported on Contec Masonry Walls.

Piping lines

When required, PVC and other piping lines can pass through holes in the panels. Maximum hole diameter permitted in panels is 4 1/2". If more than one hole is required, these must be aligned to panel length. Only one longitudinal rebar in the bottom reinforcement of the panel must be cut.

Surface patching

Use Contec Repair Mortar to patch chips, breaks and other imperfections on surfaces of Contec Slab Panels.

Contec Repair Mortar is prepared in a plastic bucket, adding water and mortar from the bag (see instructions on the bag) and mixed with a stirrer using a power drill or by manual means (depending of quantity to be used). It is applied using a spatula.

Fiber glass mesh

Fiber-glass mesh, 4" minimum width, should be installed directly over one layer of render (without nails) in every joint between panels (see Fig. 13) and in places according to construction details. Fiber glass mesh is not required if the coating includes a high build acrylic texture coat or high flexible acrylic membrane.

Renders and Finishes

Contec Slab Panels can be finished with Contec Stucco, acrylic texture coat, elastomeric finishes, cement based finishes, laminated stone, ceramic or clay tiles, concrete pieces and ornamentals. For more information call Contec for technical assistance.

Application Requirements:

Tools

- Hammer ax
- Rubber mallet
- Sanding float
- Brush
- Chasing tool
- Spatula

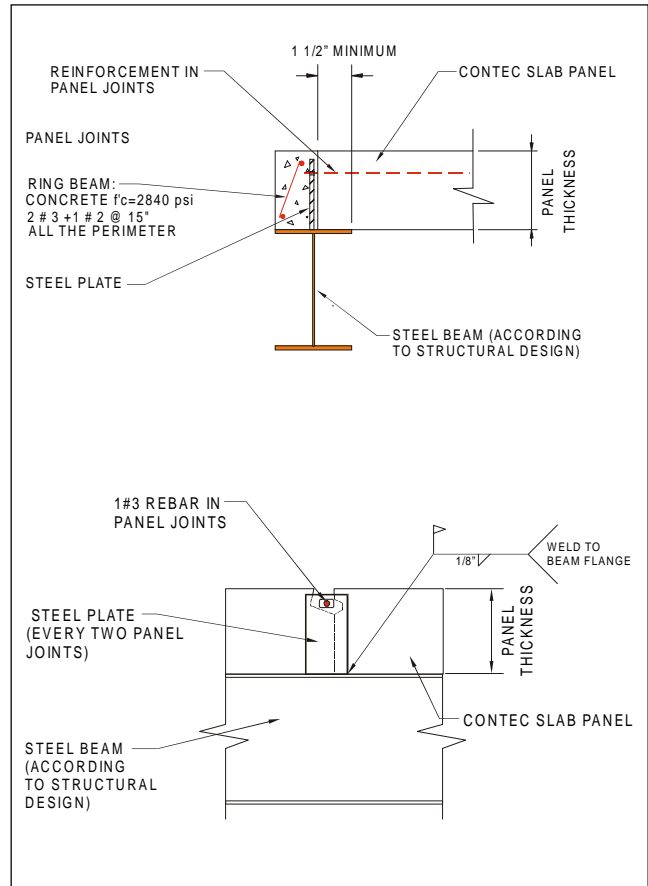


Fig. 16: Typical details of panels on steel structure.



Fig. 17: Pipe lines through sContec walls.

- Scissors for unpacking

Equipment:

- Circular saw with 8 1/4" or 9" metal or diamond blade.
- Slab panel lifting gear 2 ft length for floor or roof panel installation with length ≤ 13 ft and thickness ≤ 7 in and weight ≤ 1770 lb.
- Slab panel lifting gear 6 1/2 ft length for floor or roof panel installation with length > 13 ft and thickness > 7 in and weight > 1770 lb.
- Crane or similar
- Powerdrill
- Router
- Safety gear (goggles, dust mask, gloves, hard hat)

Additional material needed, available through Texas Contec, Inc.:

- Contec Repair Mortar
- Rebar spacers
- Fiber-glass mesh

Additional material needed, not available through Texas Contec, Inc.:

- 4X4 in. wood blocks, 2 ft. long
- Anticorrosive paint

Note: Technical support is available for builders and architects. Contact your local Texas Contec Inc. sales office for more information.



Caution: Use safety gear: Hard hat, gloves, dust mask and goggles to avoid excessive inhalation of dust and protection of the eyes when handling Contec Slab Panels.